

## MACHINE TRANSLATION OF JP 06-252997

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### CLAIMS

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#### [Claim(s)]

[Claim 1] It has a voice input unit (1) for inputting a number, a character, and/or a control word (Z, G, L). The speech recognition circuit (2) for detecting the number and/or character which can be inputted, an idle period (P), and/or a control word (Z, G, L) is included. The storage unit (7) for memorizing the number and/or character which were detected by this speech recognition circuit (2) is included. And it sets to the telephone (1, 2, 3, 4) containing the output unit (3) for outputting the number and/or character which were detected by the aforementioned speech recognition circuit (2). The aforementioned speech recognition circuit (2) corrects the number and/or character which were detected at the end after the input of the at least one number group or character group (31, 32, 33) which consists of a number and/or a character, and an idle period (P), after the 1st control word (Z) is inputted. The number group or character group (31, 32, 33) detected at the end after the 2nd control word (G) was inputted is canceled. And/or, the telephone which carries out the feature of having the control circuit (4) constituted so that all the numbers, number, and character group (31, 32, 33) which were detected after the 3rd control word (L) was inputted may be canceled.

[Claim 2] An output unit (3) is a telephone according to claim 1 which is display.

[Claim 3] An output unit (3) is a telephone according to claim 1 or 2 which is the voice generator (5) connected to the loudspeaker (11).

[Claim 4] A voice input unit (1) is a telephone according to claim 3 combined with a hand-held cellular phone and/or hand free telephone equipment.

[Claim 5] A telephone (1, 2, 3, 4) is a telephone according to claim 3 or 4 which is a mobile radio telephone which has a radio transmitter.

[Claim 6] An output unit (3) is a telephone given [ to the claims 1-5 which are display ] in any 1 term.

[Claim 7] An output unit (3) is a telephone given [ to the claims 1-6 which are the voice generators (5) connected to the loudspeaker (11) ] in any 1 term.

[Claim 8] It has a voice input unit (1) for inputting a number, a character, and/or a control word (Z, G, L). The speech recognition circuit (2) for detecting the number and/or character which can be inputted, an idle period (P), and/or a control word (Z, G, L) is included. The storage unit (7) for memorizing the number and/or character which were detected by this speech recognition circuit (2) is included. And it sets to the voice recognition unit (1, 2, 3, 4) containing the output unit (3) for outputting the number and/or character which were detected by the aforementioned speech recognition circuit (2). The aforementioned speech recognition circuit (2) corrects the number and/or character which were detected at the end after the input of the at least one number group or character group (31, 32, 33) which consists of a number and/or a character, and an idle period (P), after the 1st control word (Z) is inputted. The number group or character group (31, 32, 33) detected at the end after the 2nd control word (G) was inputted is canceled. And/or, the

voice recognition unit which carries out the feature of having the control circuit (4) constituted so that all the numbers, number, and character group (31, 32, 33) which were detected after the 3rd control word (L) was inputted may be canceled.

[Claim 9] A speaker uses the whole input and the 2nd control word (G) using the 3rd control word (L), each time In the number and character which can cancel the number or character group (31, 32, 33) formed of a number and/or a character, and an idle period (P), and/or the speech recognition method of a control word The character inputted into the number and/or the last which were inputted at the end is the speech recognition method characterized by the ability to use the 1st control word (Z), and cancel or correct each time.

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## DETAILED DESCRIPTION

### [Detailed Description of the Invention]

#### [0001]

[Industrial Application] this invention relates to the telephone which has the voice recognition unit of the number and/or character containing the input unit for inputting a number and/or a character, and a control word.

#### [0002]

[Description of the Prior Art] For example, a mobile radio telephone, this kind of equipment is required in order to input the telephone number. A user can memorize these with this microphone by carrying out voice input of the number of the telephone number without press of the key which may expose the operator of vehicles to risk by this kind of mobile phone having hand free equipment which has a microphone, and desired telephone connection can be set up. Therefore, the user of this kind of mobile radio telephone can begin a telephone call also under the difficult operation situation of requiring an operator's complete concentration. For this reason, a user should just make connection of the request which starts a mobile radio telephone using a control word, and is set up by the voice input of the number of the desired telephone number after that even in the beginning. For this purpose, the mobile radio telephone has not only the voice input unit for inputting a number, a character, or a control word but the voice recognition unit. This equipment reproduces the number and/or character which should be checked visually or in acoustic sense. The fundamental problem in the case of using this kind of voice recognition unit is because the recognition method consists of the fact that the pronunciation which is easy to lapse into an error, namely, has various errors not only in one pronunciation but variously is recognized.

[0003] The voice recognition unit with which the telephone number in the number of a certain number, for example, the form of a separate digit string, is separated and inputted into WO 89/04035 by the idle period, respectively is indicated. When speech recognition with an error occurs, it becomes unnecessary for a user to be able to change the digit string inputted at the end,

and to input the whole digit string again once again through a voice input unit for an idle period.

[0004]

[Problem(s) to be Solved by the Invention] The technical problem of this invention is offering the voice recognition unit which sees from a viewpoint of a human engineering especially and enables much more good correction of recognition of the error in an input.

[0005]

[Summary of the Invention] This technical problem has a voice input unit for inputting a number, a character, and/or a control word. The speech recognition circuit for detecting the number and/or character which can be inputted, an idle period, and/or a control word is included. The storage unit for memorizing the number and/or character which were detected by this speech recognition circuit is included. And the output unit for outputting the number and/or character which were detected by the aforementioned speech recognition circuit is included, and it sets to a voice recognition unit. The aforementioned speech recognition circuit corrects the number and/or character which were detected at the end after the input of the at least one number group or character group which consists of a number and/or a character, and an idle period after the 1st control word was inputted. The number group or character group detected at the end after the 2nd control word was inputted is canceled. And/or, it is solved by having the control circuit constituted so that all the numbers, number, and character group which were detected after the 3rd control word was inputted may be canceled.

[0006] this invention corrects the whole message offered until now, namely, it is based on recognition that the method of correcting each train of a word or a number group is inadequate. It is because each number is often mixed up in a certain language. It is often mixed up and, on the other hand, possibility of "5" of being mixed up with "9" is [ a number "0", "9" "2", and "3" ] high in German, in English.

[0007]

[Effect of the Invention] What is necessary is KYASERU [ according to the equipment of this invention / at least the train of the last and / only the whole input or the number inputted at the end ] for correction of the input which made the mistake in being such already. In this case, the position of the number which should correct, or a character is directed internally, and it is not necessary to perform from a human engineering-viewpoint pinpointing of the position of the troublesome number which should correct or a troublesome character. Human engineering-correction of the input which time was saved and was mistaken by this is attained. thus, : to which the equipment of this invention carries out a following inspection or a following arbitrary correction function -- KYASERU of the whole input using KYASERU of a word group using correction of the message inputted into the last using the 1st control word, and the 2nd control word, and the 3rd control word

[0008] The checking feature on the visual sense to a speaker is realized because an output unit is display. This kind of display is effective when a speaker does not have mind of optical display distracted.

[0009] The acoustical checking feature to a speaker is prepared and an output unit is a voice generator connected to the loudspeaker in that case.

[0010] The input of data, a character, or a control word can be carried out by the easy method, and the voice input unit is combined with a hand-held cellular phone and/or hand-held hand free equipment in that case.

[0011]

[Example] Next, this invention is explained in detail using a drawing per example of illustration.

[0012] The voice recognition units 1, 2, and 3 shown in drawing 1 form the portion of the mobile radio telephones 1, 2, 3, and 4. Only the required portion is illustrated to voice recognition units 1, 2, and 3 among mobile radio telephones. The mobile radio telephones 1, 2, 3, and 4 have the

output unit 3 constituted as display which has the voice input unit 1, the speech recognition circuit 2, and viewing-area 3a. The block shown by the reference number 4 shows another portion of the mobile radio telephone which is not important for the function of a voice recognition unit any longer. The voice input unit has the loudspeaker 11 and the microphone 10. [0013] Below, the function of voice recognition units 1, 2, and 3 is explained in detail. A speaker, for example, the operator of a private vehicle, inputs a desired call number using the microphone 10 which forms the portion of a hand free device. A call number is inputted by the operator who takes out each number of the telephone number to voice, and, on the other hand, a speech recognition circuit displays the detected number on a display 3. The telephone number which consists of a dialing sign and a subscriber's number is separated and inputted by the idle period in the 1st [ to a dial cord ] number group, and the 2nd [ to a subscriber's number ] number group, and is displayed on Display 3 and 3a according to this. The voice recognition units 1, 2, and 3 shown in drawing 1 can cancel all the numbers and number groups which were detected by the whole input 2, i.e., a speech recognition circuit, using the 3rd control word, when :1., for example, a speaker, for which a speaker enables it to use the following three various arbitrary correction functions loses orientation.

[0014] 2. if an error arises in the position which is not the last of a number group -- a speaker -- the 2nd control word -- using it -- the last number group -- canceling -- and -- and this number group is repeatable as what was divided into the whole or the comparatively small number group

[0015] 3. When the recognition which the number by which voice input was carried out to the last mistook arises without [ as expected or ] expecting, or a speaker can input the 1st control word and it corrects the last number by this, the correction method which inputs the same number once again is started. The position of the number which should correct is internally directed to voice recognition units 1, 2, and 3 by the input of this 3rd possibility, i.e., the 1st control word. Impersonal demand of pinpointing the position of the number which should correct becomes unnecessary. Thus, the right recognition of a single number can be compulsorily performed by the correction method. Such a correction method that invites correction of \*\*\*\*\* mostly is indicated by the paper "SPREIN-Ein Dialogsystem mit Sprache ueber Telefon" (PKI Technische Mitteilungen 1 / 1989, and the 23rd or 28 pages).

[0016] Another example of a voice recognition unit is shown in drawing 2. Since the reference number already shown in drawing 1 is used, explanation of the example of illustration can be referred to to drawing 1. It is that there is an output of each detected number or character using the voice generator 5 connected to the loudspeaker 11 of the voice input unit 1 as a difference with the example of drawing 1. This kind of example is usable in the mobile radio telephone currently installed by the private vehicle. The user of this kind of mobile radio telephone is because the desired telephone number can be inputted in order that even the difficult operation situation of requiring an operator's all-out concentration may set up a telephone call.

[0017] The flow chart of the speech recognition method enforced by the speech recognition circuit 2 shown in drawing 1 and drawing 2 is shown in drawing 3. Another explanation of the display 3 in explanation of the microphone 10 already used in the relation of drawing 1 in the start of this flow chart and the end of this flow chart shows relation with the example of illustration to drawing 1 and drawing 2. A flow chart is used for below and operation of the method of speech recognition is explained to it. A speaker inputs the telephone number using a microphone 10. In block 21, recognition of the 1st number group which consists of a number and an idle period is performed first. In block 22, recognition of the following voice input which can be constituted from instruction L for canceling whole Instruction Z or the whole input for correcting the instruction G for canceling another number group and a number group and the last number is performed. And the question of the instruction L for the question of a number group being performed in block 23, the question of the instruction G for canceling a number group in block 24 being performed, and the question of the instruction Z for correcting the last number

group in block 25 being performed, and canceling the whole input in block 26 is performed. Questions 23, 24, 25, and 26 can answer in negative [ n ] or Affirmation y. The next question is performed whenever a negative acknowledge is acquired. The loop back of block 22, i.e., recognition of the following voice input, is performed by the acknowledgment to a question 23. If an acknowledgment is performed to a question 24, the last number group will be canceled and the loop back to the block 22 from it will be performed. If an acknowledgment is performed to a question 25, in block 29, it will correct the last number, and the loop back to block 22 will be performed after that. If the response to a question 26 is affirmative, the whole input will be canceled in block 28, and the loop back to a start will be performed. When a question 26 has a negative acknowledge, the end of an input is asked in block 27. An input is ended by the acknowledgment to this question 27. By the negative acknowledge over a question 27, in block 20, if required, correction processing will be performed.

[0018] the correction of the arbitrary numbers from a series of numbers by which voice input was carried out by being close using the speech recognition method shown in drawing 3 -- for example, especially the number that should correct with directions of the position is directed -- required -- it is possible for carrying out A human engineering correction function is realized by this possibility of correcting the number which voice input was carried out to the last, or was directed at it each time. It is also considered that only questions 25 and 26 or questions 24 and 25 are used in common for a special use.

[0019] The possibility of the speech recognition method using the input of illustration of the telephone number which changes since it is the name-of-a-country code 31, a dial cord 32, and a subscriber's number 30 shown in drawing 3 is shown in a of drawing 4, and b. As a rule, when a speaker should input this kind of telephone number, a speaker inputs in three number groups 31, 32, and 33 separated, respectively by the idle period P. When inputting into drawing 4 b the telephone number shown in drawing 4 a, it is shown what correction capacity the speaker has. Or a speaker cancels the number inputted most newly by carrying out voice input of the 1st control word Z, the correction method can be enforced to this number. After the number groups 31, 32, and 33 are inputted, a speaker can cancel further the number groups 31, 32, or 33 inputted most newly by inputting the 2nd control word G. The 3rd possibility to a speaker is canceling the whole input using the 3rd control word L. This is shown in drawing 4 b by the direction of the arrow to which control words Z, G, and L were given.

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## DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the schematic diagram showing the 1st example of a voice recognition unit.

[Drawing 2] It is the schematic diagram showing the 2nd example of a voice recognition unit.

[Drawing 3] It is drawing of the flow chart explaining the speech recognition method.

[Drawing 4] It is drawing showing the input of the telephone number, and the example of correction.

[Description of Notations]

1 Voice Input Unit 2 Speech Recognition Circuit 3 Output Unit 3A

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Viewing area 5 Voice generator 10 Microphone 11 Loudspeaker